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Characterization of preheat in laser-driven targets using interferometry* K. S. BUDIL, R. CAUBLE, P. CELLIERS, G. W. COLLINS, L. B. DA SILVA, B. A. HAMMEL, Lawrence Livermore National Laboratory, G. CHIU, A. NG, University of British Columbia — We will discuss preliminary results of experiments using interferometry to measure the level of preheat-induced expansion present in laser-driven targets. A single beam of Nova at $.53 \mu\text{m}$ and 8 ns square is used to directly drive a strong (10-20 Mbar) shock through various target materials (aluminum, silicon). A Michelson interferometer is used to image the position of the rear surface of the target and the output is temporally resolved with a streak camera. Motion of the fringes prior to the arrival of the shock at the rear surface is indicative of the presence of preheating and the velocity of the surface can be used to quantify the temperature. *Work performed under the auspices of the U. S. Department of Energy by the Lawrence Livermore National Laboratory under contract number W-7405-ENG-48.



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